

## MYRMECOPHILES FROM THE WESTERN UNITED STATES AND LOWER CALIFORNIA

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In February, 1923, the writer made a short trip into Lower California, from Loreto to Comondù. The season was extremely dry and little insect life was seen, but beneath stones in canyons, especially toward evening, a few ants were active and among them were found two undescribed species of beetles, one of them an anomalous, blind Aleocharine that can be assigned to no known genus, the other a third species of the Histerid genus *Echinodes*.

With the descriptions of these I have included records of the host ant of several myrmecophilous beetles, with descriptions that I have had in manuscript for several years of a few new forms in the National Collection.

**Pulicomorphini**, New Tribe.

This new tribe belongs to the subfamily Aleocharinae of the family Staphylinidae and seems to be closest to the tribe Thamiaraeini. The characters given below for the genus may, for the time being serve also for the tribal characters, as the only representative of this tribe is the new genus described below.

**Pulicomorpha**, new genus.

*Female*. Robust bodied, long legged species, with broad and very deep gaster, which is carried horizontally.

Head thick in profile, subquadrate, narrower than prothorax; genae not margined. Eyes absent. Antennae situated in small, deep fossae at anterior border of front, 11-jointed, first joint shortly scapiform. Mandibles very thick at base, strongly acuminate apically, the prostheca large, partly membranous and microscopically pubescent. Clypeus large, broad, nearly flat, very feebly concave at middle of anterior border. Labrum submembranous, truncate apically. Maxillary palpi 4-jointed, first joint very small; the second slender, two-thirds as long and about half as thick as the third; terminal stoutly subulate, about half as long as the third. Labial palpi 2-jointed, the basal joint a little thicker than the second and nearly equal in length. Prothorax convex above, greatly narrowed behind, hypomera not visible. Elytra nar-

rower than the prothorax, together longer than broad and broader behind than in front, with narrowly rounded anterior and broadly rounded posterior angles; scutellar borders strongly impressed, forming a profound pit which separates the elytra at the anterior half. First abdominal segment not covered by elytra, strongly chitinized; gaster as long as the remainder of body, twice as broad as elytra and, in profile, twice as thick as thorax; sides moderately margined, seven segments, subequal in length, visible from above.

Legs long and slender, middle and posterior femora arcuate and somewhat compressed; coxæ contiguous; tarsi 4-5-5 jointed, posterior metatarsus as long as the following three joints together; claws simple, long and slender.

*Male.* Differing from the female in its smaller size, more elongate form, shorter gaster (not as long as elytra and prothorax together) and in the shape of the head, which is proportionately much longer. Elytra longer, covering the first abdominal segment.

Genotype: *Pulicomorpha coecum*, new species.

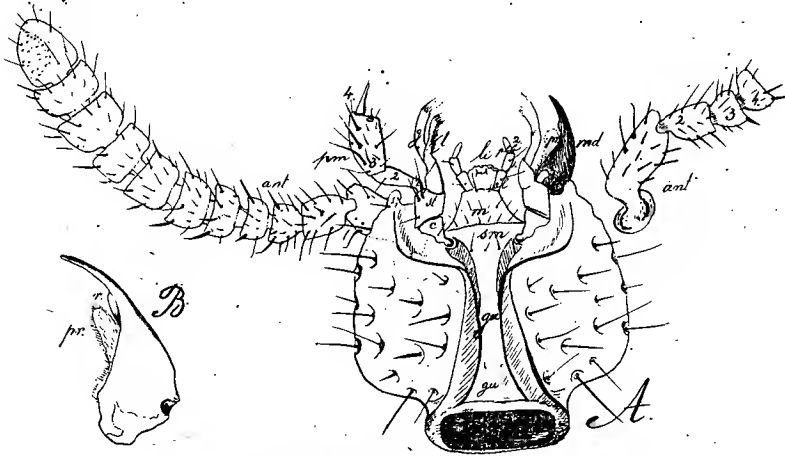


FIG. 1. *Pulicomorpha coecum*, n. sp.  
A. Head from beneath. B. Mandible.

***Pulicomorpha coecum*, sp. nov.**

*Female.* Length, 1.50-1.75 mm.

Color: pale yellowish brown; shining; head, thorax and abdomen with rather widely separated, strong punctures; legs with finer, though distinct punctures; antennæ (except basal and second joints) very finely and densely punctate and opaque.

Short, silky, yellow and erect pilosity abundant on head and body, and mixed with sparse and much longer erect hairs; pilosity of legs abundant, similar to that of body, but two or more times as long and semi-recumbent.

Head barely longer than broad, sides feebly convex, occipital border rather strongly excised at middle; vertex with a short, longitudinal impression. Clypeus one and one-half times as broad as long, very feebly concave at middle of border. Antennæ stout; first joint as long as the second and third together, joints 4-10 subquadrate, broader than long and slightly increasing in width to apex; terminal joint conical, shorter than the two preceding together. Pronotum broadest at anterior fifth, strongly narrowed behind; anterior border feebly concave at sides, projecting and narrowly rounded at middle; sides convex; posterior border narrowly rounded. Elytra together longer than broad,

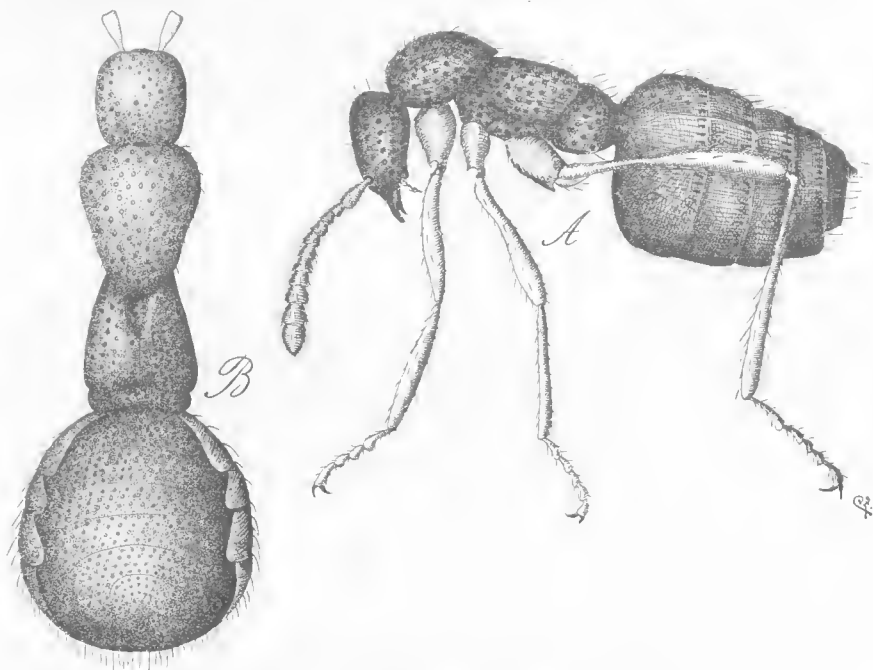


FIG. 2. *Pulicomorpha coecum*, n. sp. Female.

A. Side view. B. Dorsal view.

a little broader behind than in front, anterior corners narrowly rounded, sides nearly straight in front of middle, convex behind, posterior angles broadly rounded; posterior border broadly concave.

*Male.* Length, 1-1.25 mm.

Head two times as long as broad, quadrate, as broad in front as behind, with straight sides and broadly concave posterior border, in profile as long as the prothorax, which is longer and more slender than in the female.

Lower California. La Palma Davila.

Host: *Eciton peninsularis* Mann MS.

Type and allotype: Cat. No. 26492, U. S. N. M.

Described from a series of males and females taken among a cluster of the host ant found beneath a stone near a water hole.

Inquilinous insects that resemble their host ant or termite in form, size, color, and even sculpture and pilosity have become almost commonplace. *Pulicomorpha*, however, adds a new category to the list of resemblances in being dimorphic, the stouter bodied, larger sized female with its short and thick head, and the more slender, smaller male, with long head, corresponding to the major and minor workers of *Eciton californicum*.

It is only in balsam mounts that the segmentation of the anterior tarsi can be made out. In dried specimens they appear five jointed, in the cleared specimens there are four distinct joints, the terminal as long as the second and third together and without trace of a suture.

Superficially *Pulicomorpha* somewhat resembles *Beyeria*, but the tarsal and palpal formulæ differ, the gaster is not pedunculate and the eyes are entirely lacking.

***Pilopius ocularis* Casey.**

Host: *Ischnomyrmex cockerelli* André.

Garden Canyon, Huachuca Mts., Arizona (W. M. Wheeler).

***Platycholeus setiger* Horn.**

Host: *Ischnomyrmex cockerelli* André.

Garden Canyon, Huachuca Mts., Arizona, (W. M. Wheeler).

***Anchomam costatum* Lec.**

Host: *Crematogaster lineolata laeviuscula* Mayr.

Goldfield, Nevada.

Probably without relation to the ants other than its fondness for living in the refuse heaps in the nests.

***Psiloscelis corrosa* Casey.**

Host: *Lasius niger americanus* Emery.

Oxbow, Sask. (F. Knab). Helena, Montana (W. M. Mann).

The distribution of the second and third known specimens of this species, described from Wyoming, shows it to be widespread, but very rare. It is undoubtedly a true ant nest beetle, like the other species of the genus. Both specimens were taken in nests of the same species of ant.

***Psiloscelis abnormalis*, sp. nov.**

*Female.* Length, 6.5 mm. width, 3.5.

Form subquadrate, elongate, little convex above. Color black, legs dark reddish brown. Moderately shining.

Head behind strongly punctate, the punctures separate and those posterior longer than the others, middle portion of front with a transverse area more shining than the rest, indistinctly punctate and with several small tubercles, anterior portion of front punctate and rugulose. Basal part of mandibles coarsely punctate, apical part indistinctly so. Pronotum about twice as broad as long, slightly narrowed in front, sides at posterior half nearly straight and parallel, anterior angles narrowly rounded; surface finely and superficially punctate at middle, more strongly at sides and base; striae very distinct, two marginal striae, the inner fine and entire, the outer extending only on apical half, first subhumeral arcuate, extending half the distance from base to apex, second subhumeral straight, visible only at apical half (the two appearing somewhat as one, broadly interrupted stria), humeral short and oblique, discal striae 1-4 simple, entire and slightly curved, 5th roundly connected at apex with the 6th, which is similarly joined at base with the sutural. Propygidium and pygidium foveolately punctate. Prosternum without distinct margin. Ventral surface foveolately punctate, the metapleuræ much more coarsely than the other parts. Anterior tibiae at tips more than half as broad as long, the outer margins with four large, short, blunt denticles. Outer margins of middle and posterior tibiae with 7-10 coarse, elongate spines.

North Dakota; University (June), R. P. Currie.

Type No. 26493, U. S. N. M.

Described from a unique female. This species is most probably myrmecophilous in habit like the others in the genus, though no host ant accompanies the specimen. In its elongate form and feebly convex dorsum it resembles *corrosa* Casey, from which it differs in its much larger size and the distinct striation on the elytra.

There is, in the specimen before me, a curious abnormality in the elytral striation. The description is based on the right elytron, which is evidently normal. On the left the third sutural stria is forked at apex, the 4th, 5th and 6th are united at base and near the apex of the 6th there is a short, diagonal stria extending forward and outward almost reaching the 5th.

***Echinodes setiger* Lec.**

Host: *Pheidole dentata commutata* Mayr.

Harrisburg, Texas (H. S. Barber).

Mr. Barber collected two specimens beneath a log, with the host ant.

***Echinodes decipiens* Horn.**

Host: *Pheidole* sp.

Kerryville, Texas (F. C. Pratt).

The unique specimen in the National Collection is accompanied by a worker and a female ant.

***Echinodes peninsularis*, sp. nov.**

Length, 1.60 mm.

Broadly oval and convex, brownish red, shining; dorsum with regular, rather coarse setose punctures on the pronotum, the surface between with fine elongate punctation, like very short striae.

Front of head at middle elevated as a broad, low and rounded carina, separated from sides by strong deep furrows, and with a transverse groove at base of clypeus. Clypeus nearly flat, not greatly enlarged apically, with the front border very feebly concave. Pronotum nearly three times as long as broad, anterior border emarginate; sides convex and gradually narrowing to apex, margin of elytra continuous with the thorax. Six elytral striae fine, but very distinct, with rows of fine punctures on either side; sutural area impressed at middle of disc, striae indicated by rows of coarse punctures. Propygidium and pygidium finely punctate and setigerous. Prosternal lobe evenly rounding into the basal portion not separated by a transverse furrow; striae widely separated at base, only moderately convergent anteriorly. Surface of mesosternum shallowly concave; punctures sparse and fine. Metasternum finely and evenly punctate. Tibiae with coarse, short setae on surface and outer margin.

Baja California; Las Parras. Host: *Pheidole hyatti* var.

Type: Cat. No. 26494, U. S. N. M.

Described from a unique specimen taken toward evening with the host ant in a nest beneath a stone.

This species is distinct from both *setiger* Lec. and *decipiens* Horn in the structure of the prothoracic lobe, which is much less abrupt and not separated from the base by a transverse suture. The mesosternum, with concave surface very feebly carinate at middle and finely punctate, also differs from the latter two species, the first of which has the surface abundantly and strongly, and the second sparsely but equally strongly punctate.

**Hetærius zelus** Fall.

Host: *Formica cinerea pilicornis* Emery.  
Pasadena, California.

**Hetærius strenuus** Fall.

Host: *Formica fusca argentea* Wheeler.  
Santa Cruz Mts., California.

**Hetærius hubbardi**, sp. nov.

Length, 2 mm.

Near *H. schwarzi*. Reddish brown, shining. Head with punctures rather strong, especially on the vertex. Disc of pronotum finely punctate, impressed areas at sides of base microscopically rugulose and opaque; lateral portion with a few strong punctures and a series of eight wavy, interrupted longitudinal carinæ; posterior lobed portion (in the type specimen) entirely lacking, represented by two deep incisions.

Elytra together broader than long, punctures moderately abundant and coarser than those of pronotum; striæ as in *schwarzi* but less strongly carinate. Propygidium and pygidium coriaceous, sparsely and finely punctate.

Prosternum coarsely and densely punctate and opaque, marginal striæ converging at half the distance from base to apex.

Meso- and metasternum finely punctate and shining. Legs as in *schwarzi*.

Arizona, Oracle. Jan. (Hubbard and Schwarz).

Host: *Formica* sp. (in bad condition).

Type: Cat. No. 26495, U. S. N. M.

The hairs in the type specimen have nearly all been rubbed off, the few remaining are short and stiff.

The specimen has been in the National Collection for many years and has been seen by a number of Coleopterists, who differ in opinion regarding the excised posterior portions of the pronotal margins. I think it probable that the specimen is abnormal, but perhaps the lobes were bitten off by the ants while the beetle was in a soft condition. In that case it was a very neat dissection, for the excisions are quite symmetrical.

In addition, *hubbardi* differs from *schwarzi* in its much finer punctation, more abundant carinulæ on the prothoracic marginal pieces and in the striae which separate this portion from the disc. In *schwarzi* there are two striae, both complete, in *hubbardi* the inner becomes obsolete at half the distance from base to apex.

**Hetærius schwarzi**, sp. nov.

Length, 2.25 mm.

Dark reddish brown. Form broadly oval.

Head rather coarsely and irregularly punctate, the punctures on anterior portion of front fossulate and more approximate than those posterior. Clypeus twice as broad as long, its surface concave at middle; anterior border slightly convex. Pronotum twice as broad as long; disc shining, strongly punctate, anterior border more densely punctate and coriaceous between; marginal portion impressed at basal third, the anterior portion coriaceous and with coarse, fossulate punctures and strong, irregular longitudinal carinæ, posterior portion gibbous toward inner margin, surface fossulately punctate, with one entire and acute longitudinal carina. Elytra together broader than long, coarsely punctate, the punctures irregular on mesal portion and arranged in rows between the striæ; humeral and marginal striæ entire, first discal stria entire, second and third extending five-sixths the length of elytra, all rather sharply carinate. Propygidium and pygidium coriaceous, moderately shining, with a few punctures, finer than those of elytra. Prosternum densely punctate and opaque, the lateral marginal lines converging at five-eighths the distance from base to apex; transverse impression anterior to this very feeble.

Meso- and metasternum moderately shining, finely and sparsely punctate. Legs strongly punctate, anterior tibiæ about one-third as broad as long, denticulate at outer border.

Arizona; Oracle. Apr. (Hubbard and Schwarz).

Host: *Formica rufibarbis gnava* Buckley.

Type: Cat. No. 26496, U. S. N. M.

The single specimen in the collection is badly rubbed. There is a sparse fringe of stiff yellow hairs on the prothoracic margin and scattered, erect and rather short hairs on pronotum and elytra. Judging from the arrangement and abundance of punctures, fresh specimens are thickly pilose. Some of the hairs on the elytra are longer than the others, thick basally and fine and flexuous apically.

This and the preceding species are large, more robust and more strongly punctate than any of the Western species except those of the *tristriatus* group, and are related more to *blanchardi*.

DIPTERA, SYRPHIDÆ.

**Microdon newcomeri**, sp. nov.

~~Male. Length, 11 mm.~~

~~Color dark blue, with violaceous lustre, especially on abdomen; tibiæ and tarsi brown. Frons distinctly broader than long, narrowed in front to posterior third of eyes and at narrowest place one-half as~~